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SCHOOL AND SOCIETY

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SCHOOL AND SOCIETY

Volume XXVI SATURDAY, AUGUST 27, 1927 Number 661

THE IMPROVEMENT OF EDUCATIONAL RESEARCH[1]

WE refer to the study of education to-day as the "scientific study of education," and we all take pride in being connected with this movement, in part because it is thus regarded as a scientific movement. It is my purpose this morning to consider what it means, after all, to be scientific, and to what extent we succeed—and to what extent we do not succeed—in being truly scientific in our chosen profession.

As for me, it was not until I was more than half way through my college course that I had occasion even to reflect upon this theme, and, so far as I can remember, despite the fact that I had taken several courses in science before that time, that was the first occasion that anyone had called my attention to the essential spirit of science and to the nature of scientific method applied to research.

Before developing my theme, I would like to take a few minutes to comment upon this anomaly, because I feel quite sure that the conditions under which students of the present day pursue much of their work in the sciences are not much better than they were a generation ago, so far as this matter of training in scientific method is concerned. I say this because I have asked various high-school graduates to tell me what science aimed to do and what they understood scientific method to be, but have never received a clear reply to either question. Similarly, I have asked numerous high-school teachers of science to what extent they were able, in their chemistry, their physics, or their biology, to inculcate an appreciation of the spirit, methods and aims of science, and have received from most of them the confession: "Practically none at all." Yet will you not grant that it is more important for a high-school graduate to have gained a notion of the spirit of science than it is for him to know how far a body falls the first second in a vacuum, or to be able to state Avogadro's hypothesis? I think so, at any rate. In my opinion, one of the greatest needs of our day is the training of our abler students in the appreciation of scientific method—at least so far as to develop in them that attitude of tolerance, of freedom from bias and prejudice, that ability to disentangle opinion from fact that is the essence of science. If no more than ten per cent. of our citizenry could gain that objectivity of attitude that science embodies, we should hear less of Scopes' trials and less of the unfortunate efforts of fervent legislators to dictate the courses of study of our public schools.

May I commend this matter to your attention, then, here at the outset, as a possible subject for investigation, if your tasks as directors of research include, as I believe they should, investigation of the efficiency of instruction in various branches?

Some cardinal features of scientific work. To return to our main theme, I wish first to outline what I regard as the essentials of work in science, then to consider the extent to which educational research is meeting these essentials.

The aim of science is the systematic description of phenomena, the concise descrip-

[1] An address given before the California Educational Research Association—Sixth Annual Conference, May 14, 1927, San Jose, California.

tion of the knowable universe. The man of science selects for his own specialty some rather limited field within which he proposes to work. His first task is to become intimately acquainted with the phenomena exhibited within this field. To do this he must, among other things, know thoroughly what others have already done in this field. In his endeavor to push back the horizon of the unknown, he then formulates some specific problem for his own investigation. The observations which he undertakes for the purpose of gathering more facts pertaining to this problem must be carried on by appropriate methods, chiefly with the aid of that form of controlled observation that we term "experiment." In order to render his experimental observations suitably precise, he makes use of measurement. On the basis of the facts he is thus able to assemble, he next endeavors to establish the order in which these phenomena appear—in other words, to note their sequence. If he can establish satisfactorily the existence of specific sequences, such that given certain antecedent conditions, certain consequences invariably follow, his statement of this sequence takes on the dignity of a so-called "scientific law." Invariable sequence furnishes the causation of science. In the formulation of this ordered, concise statement of the sequences of events, which is the ultimate goal of the man of science, he must make from time to time hypotheses, tentative formulations, the validity of which he endeavors to test by further suitable experiments. If he is successful, he publishes his results in clear expository form.

Roughly, such is the aim and the method of science. Each of these steps is worthy of careful consideration in our effort to present the need and possibilities of improvement in the scientific approach to educational problems.

Ignorance of the work of predecessors. Our very first statement—*the need of knowing what has been done by others before undertaking work ourselves*—demands a few words of comment. In my judgment, one of the reasons for the inadequacy of much of the work attempted in the domain of educational research lies in the neglect of this principle—obvious as it is.

An illustration or two will make my point clearer. A certain worker in education, whose name would be known to many of you, were I to mention it—once informed me that he had devoted his efforts for more than a year to studying the practice error in the taking of mental and educational tests. With thinly repressed pride he informed me that no one before him had been clearly cognizant of this source of error in educational science, whereas he had unearthed it, had measured its amount under various conditions, and was about to publish an extended paper calling the attention of his coworkers to this phenomenon. I said to him: "Why, man alive, there is nothing new in the practice error; it was known to psychologists before you were born; hundreds of pages have been written about it and formulas galore have been advanced to cover its manifestations!" "Where, I should like to know, and by whom?" he asked. "Well, did you ever read the earlier volumes of the *Philosophische Studien*?" "No, what's that?" "That's a periodical, written in German, and occupied mainly by the publications from Wundt's laboratory at Leipzig." Again, I inquired: "Did you ever happen to read Fechner's *Elemente der Psychophysik*?" "No. Fechner? Who was he?" —but I shall not take your time by detailing the remainder of this interesting conversation—interesting to me, at least. Imagine a man trying to do the most careful kind of laboratory measurement in the field of mind, who did not even know of the existence of Fechner and Wundt—let alone know their material! One can perhaps forgive the embryo graduate student who

would rush into research thus oblivious of the work of his predecessors; but it seems to me that one can not forgive the university professor who permits him to do it.

Another instance: While giving a summer course in the administration and interpretation of the Binet tests at a certain university, my wife was approached during the last meeting of the class by a man who asked permission to visit the course for that day. When asked why he wanted to do so, he explained that he was to give a course in Binet testing at a certain college, two weeks later. "However," he added, "it so happens that I have never given the Binet tests nor read any of his writings; so I thought I ought to see it done once before I start my course!" One can imagine the quality of mental testing that the graduates from this man's course may inflict upon the children who fall into their hands and the amount of discredit to the cause of educational research that may flow from so flagrant an example of this sort of ignorance that I am inveighing against—this total lack of adequate knowledge of the field and of the work of antecedent investigators.

Futile problems. I spoke next of the *formulation of a suitable problem for research.* In this aspect of our work, too, it is my opinion that improvement may be made. Of course, those who become specialists in a given field are rarely expert in other unrelated fields of science, so that when we look with more or less envy on the publications of our colleagues in other sciences, it may be that we overestimate their worth and underestimate that of our immediate fellow-workers. Nevertheless, I can not evade the conviction that, relatively speaking, the published research in education is, on the whole, inferior in quality, and more especially inferior in ultimate significance, to the published research in other branches of scientific endeavor. Too many contributions seem essentially futile. After you read them, you feel like saying: "Well, suppose it is true; what of it?"

This difficulty would certainly impress you if you had occasion, as it happens I have done for some twenty years, to read dozens of the papers that are submitted by educational investigators to the editors of our professional periodicals. Dr. Buckingham tells me that slightly less than thirty per cent. of the articles submitted for the *Journal of Educational Research* are actually accepted for publication. (You may feel like saying: "What are the other seventy per cent. like, then?") Take, for example, the flood of articles dealing with the distribution of test scores and their correlation with one another and with school marks and other criteria of scholastic achievement. It sometimes seems as if the chief object of some educational workers was to administer two or three tests for the sole purpose of calculating a correlation and rushing into print with it. Of course testing is necessary, and of course figuring correlations is practically useful; but these need not be regarded as achievements that must be heralded in print.

I feel much the same way about a good many of the papers that are presented at educational gatherings, even of organizations that may be assumed to represent the best informed and most highly trained personnel in the ranks. I venture to say that many of you who have listened to papers presented at such gatherings have felt that attendance upon some of the programs was time wasted on account of the general futility and puerile nature of many of the alleged pieces of research. Many of them would rank about average for a term essay by a graduate student.

The hasty formulation of problems. Another difficulty with respect to this matter of the formulation of suitable problems evidently arises from the hasty way in which they are adumbrated, and this very

often means, again, inadequate knowledge of the work of one's predecessors in the field. A characteristic example came to my attention a few months ago—this also an example taken from the work of a writer known to every one in this audience. This investigator undertook to test the comparative worth of various intelligence tests in different grades of the schools. As one of his tests he employed the National Intelligence Tests. On account of my own connection with these tests as director, I was naturally interested to discover what had been learned about them. After wading through some dozen pages I learned that this investigator, by means of extended experiments and careful refinement of statistical technique, had made the startling discovery that the National Intelligence Tests did not work satisfactorily in the 9th and 10th grades. But if this man had only read page 4 of the manual of directions that accompanies these tests, he would have read that: "The tests are planned for use in Grades 3 to 8." Furthermore, if he had examined the remainder of the same manual, he would have perceived that no norms are given above the 8th grade and that no percentile distribution is given above the 7th grade. I call that sort of work futile research. The reason that it is futile is plainly that the investigator in question did not formulate a significant problem, and he did not do that because he was not familiar with the statements already made by the committee of five psychologists who devised the tests. He is a good example of the research type of investigator—re-search with the accent on the first syllable!

The neglect of direct observation. Our next statement was to the effect that *the formulated problem is to be approached by means of careful observation, especially by means of the observation under controlled conditions that we term "experiment."* Here, again, it is my conviction, inadequacy appears in some of our educational research. In the first place, there is often a tendency to rush into experimental methods without first having made proper use of simple, direct *observation* of the situation itself. Perhaps that does not make very clear what I mean. I mean that a truly skilled observer of children, a person who is by nature a real psychologist, can often gain most illuminating information by the mere process of watching children at work, noting intelligently the behavior of his own children, talking with them, finding out how they feel, what they are doing, how they go about doing it. Spend a few days or a few weeks in this way before you rush to apply experimental and statistical methods on a wholesale scale. I can think of no more illuminating illustration of this use of sublimated common sense and shrewd psychological observation than the papers of Alfred Binet in *L'Année psychologique* in which he sets forth the characteristic mental differences between his two daughters, Armande and Marguerite. It was just this sort of keen observation that made it possible for Binet to devise the remarkable series of tests that have made him famous. For really first-class work in educational research, then, skill in the refinements of experimental technique is not enough; the investigator must have within him some superior sort of ability to introspect and to "feel" mental processes at work.

The use of experimental technique. So far as experimental technique itself is concerned, let me take your time only long enough to point out that it is only comparatively recently that research in education has arrived at the employment of some of the most obvious principles of scientific procedure. Take the case of the investigation of the problem of formal discipline. For a stretch of several years the experimental attack upon this problem made no use of the obviously necessary control group. On the contrary, the conclusions about the transfer of training which are

now just about percolating into the lay mind—that means ten or fifteen years or more—were almost entirely built up upon experimental evidence of a dubious sort—evidence that, in my judgment, would not have stood for a moment the attacks of critics in other and more sophisticated branches of science.

If you are reacting critically to these assertions, as I trust you are, you are doubtless saying to yourself: "Yes, but it is not fair to compare educational research with research in the exact sciences in which the control of the numerous factors can be more rigidly attained." Quite true; I am not contending that educational research is simple; on the contrary. But the conclusion to which this drives us is the imperative need for elaborate and painstaking control of the factors, and for the isolation, if at all possible, of one factor at a time—the "law of the single variable"—to speak in technical terms.

The value of preliminary trial. Before I leave this matter of experimentation, may I take another moment to point out a method of procedure that is often neglected, though it is, I think, of considerable usefulness to us? I refer to the use of the preliminary investigation. I think I am right in saying that, whenever it has been possible for me to arrange a simple preliminary trial of any serious investigation in which I have been engaged, the time and effort devoted to this preliminary trial have been repaid many times over by the light that has been thrown upon my methods and my whole plan of attack. I would recommend that no important research should be undertaken save after a trial of the procedure on a small scale. If no more is done than to test directions orally upon a half dozen cases, valuable information will be gained. I have seen more than one ambitious undertaking pushed forward in the laboratory or in the school, only to have it develop, when too late to retrace the steps, that the entire undertaking had been rendered to some extent inadequate or unconvincing because of some flaws in technique that might perfectly well have been unearthed at the outset by the preliminary trial I am advocating.

The use of the questionary. One of the favorite methods of investigation in educational research is the questionary. In my student days at Clark University, this was a favorite method for producing a doctorate thesis. The epidemic of questionaries must have been lived through to be appreciated. Indeed, the relative merits of the investigations of different graduate students seem almost to have been more or less appraised in terms of the number of replies they were able to cajole from a reluctant public. One student, in fact, stated at Dr. Hall's seminary when presenting his results, and with absolute seriousness, this: "The replies to my questionary, upon which my conclusions are based, cover a sheet of brown paper three feet wide and nine feet long!" Twenty-seven square feet of—of what? Very likely, of quite unreliable information.

Of course, questionaries are not to be banished just because they are sometimes mistakenly used. But we can improve our research, in so far as we use the questionary, by taking pains with its construction, dissemination, and interpretation. For example, a good questionary should, I judge, conform at least to these stipulations:

1. It should be within the comprehension of those who are to answer it.
2. It should demand a minimal amount of writing.
3. It should be directed primarily to matters of ascertainable fact and less often to matters of opinion.
4. It should elicit unequivocal replies, especially if these are later to be subjected to statistical treatment.
5. It should deal with matters that are worth investigating and that will seem to the recipients to be worth investigating.

6. Though demanding only brief replies, it should stimulate supplementary communications from the recipients.
7. It should promise the respondent a copy of the published results.

Users of questionaries will do well, I think, to keep such principles as these in mind. They will also do well, in particular, to avoid the simple fallacy of assuming that quantity can be substituted for quality—like my old fellow-student with his sheet of brown paper. One hundred replies from one hundred stupid persons are not necessarily better than one reply from one stupid person; they may be far more misleading.

The use of measurement. The next step in our description of the work of the man of science reads: "In order to make his experimental observations suitably precise, he makes use of measurement." Of course, volumes have been written upon the use and the value of measurement and we ordinarily think of measurement, perhaps rightly, as the essential feature of the scientific movement in education. The concise and precise recording of observations which is the business of science has been built largely by and around the various units of volume, length, duration, intensity, etc. "Nearly all the grandest discoveries of science," says Lord Kelvin, "have been but the rewards of accurate measurement, and patient, long-continued labor in the minute sifting of numerical results." Kelvin had in mind Newton's discovery of the law of gravitation, Joule's law of thermodynamics, Faraday's theory of specific inductive capacity. One might mention, also, the instructive instance of the discovery of argon. Lord Rayleigh had weighed with great precision the oxygen contained in a carefully weighed and measured glass flask. He found seemingly trivial divergences in the figures, differences in the fourth decimal place. Subsequently, he weighed in the same vessel nitrogen made from certain of its compounds and nitrogen secured by removing from atmospheric air all the other then known ingredients. He was left ultimately with discrepancies which induced the conclusion that, despite their minute character, they lay beyond the limits of chance errors, and accordingly it must be that the nitrogen obtained from the air was not pure nitrogen, but contained some other, thus far unrecognized gas.

I cite this illustration from another branch of science because it has certain features that ought to interest us. Two in particular; first, that differences of measurements so minute as to run into the fourth decimal place may be of extraordinary import, but second, that they reach that import only in the mind of a man who is possessed of that fertile imagination that marks the true man of science.

The half-trained follower of the scientific method, however, is often a person who has become indoctrinated with the importance of carrying the figuring into the fourth decimal place, but who has never the wit to see what the meaning of the decimal figures may or may not be. This sort of silly pedantry seems to be one of the necessary curses of our profession. Lord Rayleigh did well to work at the fourth decimal place because he was operating with media and instruments such that this decimal place was truly significant; but what shall we say of the educational investigator who runs every correlation coefficient to the fourth decimal place when ordinary horse sense, let alone a moment's calculation, would have shown him that his second decimal place was already subject to an error as large as his coefficient? Statistics often impress one as the most obvious place to find illustrations of the saying that "a little knowledge is a dangerous thing."

Typical statistical errors. Among the errors most commonly encountered in the use of measurement and statistics in our profession are certain ones that have come

to my attention editorially so often that they deserve expression here.

1. There is the inexcusable error of downright arithmetical inaccuracy. In these days of adding machines, slide rules, multiplication tables, tables of squares and roots, and all the impedimenta and armamentaria of the statistician, there seems little excuse for arithmetical errors. Certainly, any piece of work that is to be put to serious use ought to be carefully checked for such errors. That such careful checking is not always carried out may be indicated by this. Two years ago we undertook to reconstruct certain pages in the manual of directions for a well-known intelligence test. The work finally necessitated the securing of a large mass of original test blanks from some school system. Eventually, we located a certain school system that was willing to ship us more than a thousand test blanks. Every one of these blanks had been scored in the offices of the director of measurements in the school system in question, and, unless I am much mistaken, the scores had been used for purposes of pupil classification. Coming by chance upon an error when tabulating the test scores, we stopped a moment to examine more of the blanks. Of the first 20 examined, 18 contained arithmetical errors! In one case 8.3 had been transcribed as 83, adding approximately 75 points to the pupil's total score. Of course, there was nothing to do but rescore the entire mass of blanks.

2. There is the very common neglect to compute the reliability of medians and averages, but more especially neglect to compute the reliability of the differences between averages or medians. Within the last six months I have had submitted for publication three papers in which the gist of the whole argument was that the carrying out of a certain type of practice or of instruction had produced a measured improvement in a certain function. The function was apparently carefully measured, with considerable elaboration of original tables, the averages for the function before and after taking the treatment were finally paraded, with the characteristic: "Hence we conclude that thus and so has produced an improvement of so and so many points in this function within so many months." In two of these papers computation was possible from the data submitted, and this computation showed that the apparent improvement exceeded its own probable error but very slightly; in other words, the investigations had not demonstrated anything, save the absurdity of knowing some statistical technique, but not quite enough.

3. Closely coupled with this failure to measure the reliability of significant differences is the failure to use the simple mathematics available to forecast approximately the number of observations needed to establish a given outcome with satisfactory reliability. I ran across an illustration of that, also, a year or so ago, that has stuck in my memory. An educational writer presented a certain conclusion with considerable cautiousness—as well he might under the circumstances—but added: "It is unfortunate that we had not foreseen the need for including a larger number of cases in our measurements; if we had added fifty or sixty additional cases, we could doubtless have presented this conclusion with certainty." Just for curiosity, I calculated what number of cases he would have needed to have obtained in order to establish his conclusion with what you might term "high-class" certainty—so that the chances of accidental occurrence would be one in a thousand or so; I made no memorandum of the figures, but I can recall that they ran into four digits—something between four and five thousand. Here, let it be noted, is another type of situation in which the preliminary trial I am recommending would have been exceptionally useful. Had this inquirer run off his tests on fifty cases and carried out his computations on the data

thus secured, he might have been able at the outset to determine that the tendency he thought he could discern was so slight that several thousand observations would have been needed to establish its existence with certainty.

4. It would be stretching the point to say that the type of error I mention next is a common one, but it chances to be one that I encountered within the past few weeks, and it may interest you to hear of it, as it illustrates the naive manner in which some persons working in the field of education look upon the use of some of our modern scientific methods of measurement. The investigator who discussed this matter with me is not a director of research, but a sort of supervisor of nation-wide repute in his specialty, which, for the sake of disguising him, yet making an illustration of his line of argument, I will translate into the sphere of music. He started in by saying: "I have been collecting some facts about music, Dr. Whipple, that ought to be of great interest to you and your colleagues who are concerned with educational measurement. It seemed to me that in our specialty, we failed to be truly scientific because we judged our work in the schools too much by impression and too little by getting directly at the facts by scientific methods. Accordingly, about eight years ago I took the trouble to apply the Seashore tests to all the pupils in the fifth and sixth grades of the schools in the city of X. I saved these results and made a proper table of them; then I made a distribution curve to show how the table looked in graphic form. Five years later I had my assistants locate these pupils—those of them that were left—in the various high schools of X, and then I used various methods to ascertain what they could do, and what they were doing, in music. I had them sing, tested their interest in music, their ability to identify well-known selections, counted the instruments they could play, and so forth. All this information I translated into figures, in order to be exact and quantitative; then I drew up a table, and from this table I made a distribution curve the same way I made the other curve I was telling you about. Now, you see the situation. Here is almost the only exact gathering of information in this field that anyone has attempted, and the significant outcome of it all—the thing that has persuaded me to publish the study in some journal like those you are interested in—is that it shows the very great predictive value of the Seashore tests, because *these two distribution curves are almost exactly alike!*" Well—I can only add that he promised to go off and think it over before he printed his scientific discovery.

5. A fifth error in the use of measurement and statistics is, in my judgment, of some importance and too often a source of inadequacy. I refer to the tendency to present the statistical outcomes of an investigation, to treat them quantitatively with more or less skill, and then to drop their interpretation at that point—to be satisfied, in other words, with quantitative analysis alone. It is hardly necessary to remind you that the quantitative treatment of data is not an end in itself; it is only a means of arriving at significant conclusions on the basis of the data. Certainly, in some cases there remains the possibility of going on with what might be termed a "qualitative" scrutiny of the data. Probably some of us avoid this type of analysis for fear that we shall be accused of reading our own opinions into our data, of "cooking our results," as the phrase goes; others of us neglect it probably because it does not occur to us to try it.

A typical illustration of the point I am trying to make is afforded in the examination of the cases of measurement that seem to fail to conform to the general trend of the quantitative results. I believe you will bear with me if I make use, in illustration,

of an investigation which was undertaken several years ago at the University of Illinois, in which the work was done (under my direction) by W. H. Miller, now professor of educational psychology at the University of Minnesota.

In the course of this investigation a correlation was prepared between the performance in the Analogies Test and the general intelligence of forty-three high-school freshmen as estimated by the high-school principal. This correlation was satisfactorily high (0.74). However, when the data were put in graphic form, there were found, as is always the case, certain instances forming more or less marked exceptions to the general drift of the correlation. It was decided to examine more carefully these cases in which the lack of accordance appeared between the mental test and estimated intelligence. Here are some of the interesting outcomes of the examination.

A girl who was rated 5th in 43 freshmen by the principal, but 30th in 43 by the Analogies Test, was found to average 93 in her school grades for the year, so that our tests seem certainly to have "missed fire." When we asked the girl if there was any reason why she did so poorly in our tests, we discovered (what she had said nothing of before) that on the day when she was tested, she had just returned to school after an operation for appendicitis, and then rather against the judgment of her physician. We need not then be surprised at the discrepancy found in this case, because the Analogies Test was not designed to measure convalescence from appendicitis.

Another girl was ranked 21st in 43 (that is, substantially average) by the principal, but 39th in 43 (that is, distinctly inferior) by our test. Examination of the school records tended to confirm the outcome of the test, as her average mark was only 78, the highest mark she ever received was 83, and she had barely passed in algebra and physiography. Further examination of this discrepancy, however, showed that the girl had real talent in drawing and painting and that some of her work had been on exhibition in the office of the school, which quite naturally led the principal to overestimate the girl's general intelligence.

The third case is perhaps quite unusual, but it shows some of the disturbances that may creep into quantitative records if they are not carefully checked. This girl was ranked 18 by us, but relegated to the 35th place by the principal. After trying in vain to find some explanation of this discrepancy by checking our papers, by interviewing the girl, examining her school records, etc., it was discovered some fortnight later that there were two girls by the same name in the freshman class and that the principal had been estimating the intelligence of one, while we had been measuring the other one!

These illustrations will suffice to show what I have in mind when I say that a qualitative examination of the data may be more interesting, if not more important than a quantitative examination of it.[2]

So much for measurement, its advantages and its disadvantages, and the sins that may be committed in its name.

The presentation of results. We come now to the presentation of results. What sort of results should be given to the public, to the fellow-worker in science, and how should the results be presented?

My first point of grievance in this connection has already been foreshadowed when I spoke of the futility of many of the published reports of research. It seems to me that many more studies are printed than deserve to be printed, and that many more papers are read than deserve to be read.

[2] For further illustrations of this point, consult the paper from which they have been taken: G. M. Whipple, "The Use of Mental Tests in Vocational Guidance" in "Personnel and Employment Problems in Industrial Management." Philadelphia, 1916, pp. 193–204.

Naturally, a great deal depends upon the occasion. An intimate conference, like this one, where fellow-workers from a given area assemble for exchange of views and reports of progress, seems to me the kind of conference where informal statements, sketches of work under way, discussion of difficulties, etc., are not only entirely permissible, but distinctly to be desired. I do not know how others may be affected, but the greatest benefit I derive from such gatherings is the stimulation to work that I receive. I never return without a resolve to keep pace with my colleagues, to improve my work in quantity and quality. Such benefits as these are freely admitted. What I am objecting to is rather the presentation of results formally and in important scientific magazines when the methods are confessedly inadequate and inconclusive. Why must the researcher in education forever wind up his papers with an apology? I have just pulled one volume of an educational periodical at random from the bookcase beside me as I write and thumbed the pages, glancing at introductions and conclusions. Here is about the way they run:

No. 1: "It has been impossible in this article to make a conclusive presentation of my argument; this I hope to do in a forthcoming monograph which will be based upon experiments now contemplated."

No. 2: "These conclusions are at least suggestive; it is hoped they will stimulate others to repeat the author's experiments." (Why did not they stimulate him to do it?)

No. 3: "The writers have merely attempted here to point out the inadequacies of the present scale; no attempt has been made in this preliminary paper to indicate how these inadequacies may be removed. This we shall hope to do later."

No. 4: "In the present paper the author hopes to make some suggestions for working out a scheme to enable us to make our statements increasingly more definite."

No. 5: "In general conclusion we may say that, although the results of our tests are inconclusive, there is some evidence that thus and so. . . . Obviously, the tests need to be analyzed more minutely before we shall know what mental traits are concerned in such tests."

I should be the first to endorse the policy of the strictest caution in drawing conclusions from data; but is there not a limit somewhere to the publication of page after page of inconclusive and merely suggestive material? Why not answer some of the questions oneself before putting them before one's reader in the zeal to cover space with words?

The art of presenting results intelligibly. There is another aspect in which the presentation of the results of educational research could be improved—I refer to the neglect on the part of too many investigators to pay any attention whatsoever to the mental capacity of the reader or the listener.

It is one of the qualifications of a good lecturer, an artistic lecturer, that he can both talk and listen to himself, as it were. At any rate, he has one eye out for the audience and is able, after some experience, to develop a sort of sixth sense, a "feel," perhaps it is, for the way his presentation is going. He comes to know when it is time to lighten his exposition with illustrations, when his hearers are not following him fully, when his material is too simple or too difficult. I would not expect all those who report research to have cultivated this fine art of presentation; I make no pretense, let me say parenthetically, to having cultivated the art myself, but I know it when I see it, just as I know first-class singing or piano playing when I hear it, though I can not produce it myself.

But there remains a simpler type of feel for correct presentation that lies within the capacity of any intelligent speaker. I listened during the Christmas scientific meetings to three papers in succession, which were all too obviously written for visual, and not for oral, presentation. Take the matter of presenting quantitative results, for example. In every one of these three papers there were tables which the speaker seemed to feel essential to his exposition.

In two cases he met this "felt need" (I believe that is the correct pedagogical phrase of the day!)—he met this felt need by reading his tables. All you need to do to appreciate this situation is to imagine yourself listening to the reading of such a thing as this—only much longer:

> Our results from this experiment for the university elementary school and the university high school, respectively, are as follows: Students with grade E, elementary school 52, or 14.4 per cent.; high school 103, or 7.5 per cent.; students with grade S, elementary schools 98, or 27 per cent.; university schools 208, or 19.5 per cent.; students with grade M, elementary schools 168, or 46.4 per cent.; university school 815, or 59.3 per cent.; students with grade I, elementary school 41, or 11.3 per cent.; university school 163, or 11.9 per cent.; students with grade F, elementary school 3, or 0.9 per cent.; university school 25, or 1.8 per cent.

I defy any one in this audience to repeat correctly the figures for students of any of these grades, let alone report clearly what this table is all about or what even its general trend may be.

The third speaker threw out a sop to us by pinning on a blackboard some charts which might have been read from the front row, but certainly not from the middle of the room where I was sitting. He then read all the tables for us, and added—as if it, forsooth, fixed the whole matter: "I am afraid you can not read all of these figures, but the charts will be here at the platform at the end of this meeting where you can examine them at your leisure." I will add only that there was no crowd around the platform at the end of the meeting.

I have tried to set forth some of the ways in which educational research seems to me to fall short of being truly scientific in spirit and practice. Any such attempt to marshall shortcomings of human effort is likely to give the impression of destructive, if not of hostile, criticism. This impression I would avoid. To counterbalance my criticism much might be said in commendation of the splendid work that is being done by numerous investigators and in praise of the very real progress that has been made since the study of educational problems has been undertaken by scientific methods. There can be no doubt that many of the inadequacies that have been mentioned could be paralleled in other fields of endeavor if a like attempt were made to list their inadequacies of procedure. Moreover, we must not forget that those who are carrying forward research in education are pioneering in one of the most intricate terrains and that all too often the failure to reach final solutions of their problems is, after all, to be attributed to the inadequacies of other sciences, particularly sociology, psychology and biology, which are of necessity basal to educational explorations.

GUY M. WHIPPLE

EDUCATIONAL EVENTS

AUSTRIAN EDUCATION

BEFORE beginning its summer recess, the Austrian National Assembly passed a bill of controversial character which, the London *Times* reports, was hotly opposed in committee, but which was accepted by the Social Democratic Party recently, somewhat to the surprise of those who have followed the struggles of the party to oppose and defeat the bill. The bill defines for the first time in Austria the work of the secondary schools, and recasts the higher elementary school (*Bürgerschule*) system so that children at first intended for a trade career can change and begin training for a liberal or scientific profession so long as the decision is made before they are fourteen years of age.

The Social Democrats made "equal opportunities for the workman's child" a party slogan, and the Municipality of Vienna, which maintains the lower schools, began an educational experiment which was to end this summer by compelling the government to unite the city's higher elementary schools with its own secondary schools, and so create what was to be known as the "Einheitschule," and was to serve equally all sections of the population. For the period

of the experiment the municipality obtained from the government the loan of teachers. These teachers the government has now withdrawn from the municipal schools. This action has killed the city's scheme, and has led the Social Democratic Party to accept government recognition of the *Bürgerschule*—now to be known as the *Hauptschule*—as the future transitional school for higher education.

The bill adopted recently with the concurrence of the Social Democratic Party is a severe defeat for the municipal board of education, and a victory for the minister of education.

The assembly also passed a bill which makes newspaper proprietors, editors and journalists generally liable to severe penalties if they publish anything damaging to the reputation, the earning capacity or the career of any person for payment or other advantages.

THE NATIONAL ASSOCIATION OF HEAD TEACHERS IN ENGLAND AND WALES

A SPECIAL despatch to the *Christian Science Monitor* states that among the resolutions passed by the recent conference of the National Association of Head Teachers in England and Wales was one deploring the increased facilities for gambling, especially the setting up of gambling machines by tradespeople on their premises, and urging the police authorities to exercise their fullest power to reduce "this nefarious form of commercialism." It was pointed out that the use of these machines had been suppressed in London and Birmingham, and it was decided to send copies of the resolution to the Association of Chief Constables.

A resolution was passed urging the need for a much greater provision of playing fields, and another resolution protested against the tendency to reintroduce the system of external examinations in elementary schools.

Much importance was attached by the delegates to the question of motion pictures. Two resolutions were adopted appealing to the Home Office for an inquiry to be made with regard to by-laws and licensing conditions with the object of discovering their adequacy in supporting the findings of the British Board of Censors, and expressing the opinion that many of the posters advertising cinema productions were of a type that should not be publicly exhibited as they had a definitely harmful effect upon children.

For the first time in its history the members of the association have elected as their president a woman, Miss J. W. Gibb, of Liverpool. This association consists of the headmasters and headmistresses of elementary schools of England and Wales and thus contains the most influential members of the largest branch of the teaching profession.

In her presidential address Miss Gibb pleaded for equal opportunities for all children. She pointed out that in the opinion of teachers the test for admission to secondary schools was much too difficult for the average child of eleven years, and thus many children were excluded from higher education who were capable of profiting from it. She pressed for a longer school life by the raising of the school age, and in support of a plea for better schools and better houses said that a nation whose drink bill was £301,500,000 dared not say it could not afford such things.

THE BORSTAL SYSTEM

IN the House of Commons recently, in the course of a debate on the Second Reading of the Consolidated Fund (Appropriation) Bill, the need was emphasized for another Borstal institution, a house for juvenile criminals, to relieve the present overcrowding.

As reported in the London *Times Educational Supplement*, Major Cadogan said the report of the departmental committee on the treatment of young offenders contained some recommendations which required prompt attention. The overcrowding of the Borstal institutions was a severe handicap, and an additional institution was needed if the system was to be carried on on approved lines. There was a formidable percentage of border-line cases at present in Borstal institutions, and nothing prejudiced the proper working of the system more. These institutions were never intended for the feeble-minded. He welcomed the suggestion of the committee that imprisonment between the ages of sixteen and seventeen should be abolished, but if it were carried into effect the problem of accommodation at Borstal institutions would be considerably aggravated. It was estimated that it would increase the population of these insti-

tutions by at least 1,000, which would mean that at least three more institutions would need to be provided.

Sir W. Joynson-Hicks, home secretary, with reference to Borstal treatment, explained that the boys who were sentenced to undergo it were collected in the first place at a center in Wandsworth, where their cases and their antecedents were very carefully investigated by voluntary workers, with a view to deciding which institution they ought to be sent to. Lads under twenty-one who were sentenced to short terms of imprisonment could not be sent to Borstal institutions, and they were also kept in Wandsworth. He admitted that Wandsworth was not an ideal place for the boys, and he was trying to find a better one. The three Borstal institutions were overcrowded, their daily average population having grown from 937 three years ago to 1,154 at the present time, whereas the normal population ought not to exceed 240 for each one. He did not want the House to assume that juvenile crime was growing, but magistrates were increasingly adopting the method of sending lads to Borstal institutions.

Mr. Buchanan asked whether juvenile crime was not decreasing. Sir W. Joynson-Hicks replied that it was decreasing. He had said so over and over again, and he was very glad that it should be so. He would like to see another Borstal institution provided, and he believed it would be to the economic benefit of the country if more and more of the lads who came before the courts could be sent to those places, where they had a much better chance of being reformed and made good citizens than if they were sent to the ordinary prisons. The difficulty was one of finance. He could not give any definite pledge on the subject, but the Prison Commissioners had been in consultation with him, and if it were found possible to effect economies in some other Departments of Home Office administration he hoped to find money for another Borstal institution.

MEXICO-AMERICAN FRIENDSHIP THROUGH EDUCATION

CLOSER contacts between professors in American and Mexican institutions was advocated at the closing exercises of the sixth summer school of the National University of Mexico. According to a special correspondent of the *Christian Science Monitor*, the exercises were marked by a greater exchange of expressions of friendship and good will between American and Mexican speakers than has been heard in many months.

In addition to several hundred American men and women students, this year's summer school was attended by more than the usual number of college and school professors and, according to the correspondent, their opinions are that fruitful results are beginning to appear from the interchange of students and teachers between the two countries, which has already been systematically carried on for six years. Dr. Paul H. Clements, professor of political science at the University of Arizona, who was one of the speakers at the round-table discussion held in connection with the adjournment of the summer classes at the university, declared that Latin-America seeks the friendship of Americans, provided that the United States reciprocates it, and that this can best be accomplished by education. He said that a thorough knowledge of Mexico and its people is especially needed in the United States to replace the superficial knowledge which so far has deterred friendship between the two countries. He made frequent references to recent addresses by Dr. William R. Shepherd, of Columbia University, at the Williamstown Institute of Politics, especially sustaining Dr. Shepherd's contention that the opinion of Americans on Mexico is influenced by lack of knowledge and the belief that constant turmoil exists south of the Rio Grande.

To promote better understanding between the two countries it was claimed that more courses in American universities are needed dealing with Spanish and Latin-American history, sociology, geography, commercial relations, literature and general Latin-American culture.

THE CONSTRUCTION OF SCHOOL BUILDINGS IN THE UNITED STATES

IN a survey entitled "Recent Movements in City School Systems," the United States Bureau of Education reports great activity in the construction of school buildings throughout the country during the last two years. Of 404 cities of 10,000 population or more each reporting to the bureau, 281 erected new buildings at an ex-

penditure of $245,811,715, or an average of $874,775 for each city. If the cities that did not report averaged the same, $468,502,650 was expended in cities of this size within the two-year period, says the bureau.

With the $245,811,715 there were erected 432 elementary, 165 junior high and 127 senior high school buildings, or a total of 724 buildings, at an average cost of $339,519. If the cities not reporting expended a like amount, 1,380 new buildings were erected in the cities of 10,000 population or more.

Philadelphia is cited as an example of the progress being made in schoolhouse construction in the larger cities. From September 1, 1925, to October 1, 1926, nine buildings, including two additions, were completed, which provided accommodations for 12,910 pupils. Fifteen buildings are under construction, including two additions, which will accommodate 23,106 pupils.

Sixty-seven of the cities reporting have some elementary school children on part-time and nineteen have some of the high-school students on part-time because of a lack of room. Within these last two years, however, 55 cities reduced the percentage of elementary pupils and 29 the percentage of high-school pupils on part-time. Fourteen of the 55 cities eliminated part-time sessions entirely in the elementary schools and 16 of the 29 in the high schools. In some cities the high schools are becoming more crowded than the elementary schools, owing to the fact that many more children are seeking high-school education to-day than was the case a few years ago.

In many cities the adoption of a junior high-school program has incidentally helped to relieve congestion both in the elementary and high-school grades, since the new junior high-school buildings accommodate Grades 7 and 8 of the elementary schools and Grade 9 of the high schools, or approximately one fifth of the entire school enrolment.

Great progress has also been made in forecasting school building needs. Very few school boards to-day undertake a school building program without first making a survey to determine what buildings will be needed within the next ten or fifteen years. Some of these surveys are made by persons employed by the board specifically for this purpose, and other surveys by the superintendent of schools and his assistants.

THE CARNEGIE INSTITUTE OF TECHNOLOGY AND THE UNITED TYPOTHETAE OF AMERICA

As a result of formal negotiations following a definite offer from the United Typothetae of America to establish an endowment fund for printing instruction and to relocate its craftsmanship courses in printing from Indianapolis, Ind., to the Carnegie Institute of Technology in Pittsburgh, final arrangements to effect the propositions have been completed, according to an announcement made by President Thomas S. Baker.

Under the terms of the original offer, the United Typothetae of America has agreed to raise an endowment fund of $225,000 to establish two chairs in printing instruction at the Carnegie Institute of Technology and to transfer as much of the equipment of the Indianapolis plant to Carnegie as officials of the institution need.

In connection with the transfer from the School of Printing at Indianapolis of that part of the educational program which is removed from its purely local aspect, Dr. Baker stated, the Carnegie Institute of Technology has agreed to take over full responsibility for this training along with its regular courses in printing, effective with the college year beginning in September of this year.

Of the endowment fund of $225,000 to be held in trust by the Board of Trustees of the Carnegie Institute of Technology, $125,000 is to be set aside for the establishment of a United Typothetae professorship in printing, the incumbent of the chair to be head of the department of printing of the college of industries. The remaining $100,000 is to be set aside for the establishment of the United Typothetae head instructorship in craftsmanship training, the incumbent of the chair to be in charge of the craftsmanship training.

Reasons behind the desire of the United Typothetae of America officers to effect adjustment in their educational program in so far as its program included financial support of organized schools were reported to be due to dissatisfaction with the manner in which the Indianapolis plant was regarded by public school officials of that city.

Among the conditions cited by George K.

Hebb, of Detroit, chairman of the United Typothetae of America Committee on Education, as serious enough to demand a change were the following: Lack of adequate housing facilities; overflow of high-school students; decreasing enrolment of typothetae students; increasing cost of operation to the advantage of the Indianapolis school system; impossibility of broadening the curriculum to include related sciences, art and engineering subjects, to meet modern needs, and limitations due to the political situation.

Formal tender of the endowment fund of $225,000 was made to President Baker during the mid-year meetings of the Executive Council and the Committee on Education of the United Typothetae Association, held in Pittsburgh from April 21 to 23. Within a week the proposal was formally accepted by the Board of Trustees of the Carnegie Institute and negotiations were started to complete details of arrangement.

In connection with the offer, Chairman Hebb declared that the action of the United Typothetae of America was a decidedly forward step in the evolution of its program of education. The school at Indianapolis, he pointed out, has been in operation for more than twenty-one years and is considered not only as a pioneer school of printing, but in the entire field of industrial education. It has been functioning as a higher trade school, teaching craftsmanship rather than training apprentices for the trade. The students as a general rule have been employees and sons of master printers.

The new move, United Typothetae of America officials explained, does not discontinue the School of Printing at Indianapolis but merely transfers that part having to do with craftsmanship training which is not of a purely local aspect. Printing instruction will continue to be carried on as a technical high-school course in a department of the Arsenal Technical High School. It will have the support and cooperation of the United Typothetae of America Committee on Education and Typothetae of Indianapolis.

AWARD FOR RESEARCH BY THE PENNSYLVANIA STATE EDUCATION ASSOCIATION

THE research service of the Pennsylvania State Education Association plans to stimulate experimental research in the objective rating of teaching efficiency. Its research service plan contains the following paragraph under the general caption "Stimulate Research":

> Each year some special project should be undertaken especially designed as a means of stimulating educational research. The broad questions of preparation, length of service and tenure are all closely related to that of salary, and if they could be properly dealt with, would probable come nearer offering a remedy for educational ills than the solution of any other four equally specific problems. Many theories and schemes have been advanced to right these conditions under which teachers work, but they all have one common "weak link." Teaching efficiency has not been satisfactorily accounted for. Further progress with each of these problems is effectively blocked by this one limiting factor. Objective recognition (through salary increases) of training, experience and tenure is not justified except upon the objective evidence that they have resulted in increased efficiency. The time is now ripe for a thorough study of the problem of the objective rating of teachers, and the executive council, in order to stimulate such general experimentation in this field, hereby votes to offer appropriate recognition to that person who is judged to have been most successful in his attempts to solve this problem. The research secretary will prepare a statement of the procedure to be followed in giving this recognition.

The following regulations are announced: (1) The award shall not be made before December, 1928, in order that there may be time to plan a study, carry it through a full year and prepare the results for publication. (2) The award may be earned by any one in the educational profession regardless of where he may reside. (3) The research service of the P. S. E. A. shall make available such facilities for aiding research as it may control to any student who submits a plan in this field which appeals to the research secretary as meritorious. (4) The research service of the P. S. E. A. shall publish and distribute the report winning the award. (5) The executive council of the P. S. E. A. shall determine what constitutes "appropriate recognition" after the plans for the researches have been examined. (6) The awards shall be made by a committee of students in the field of educational science whose judgments will be received with respect throughout the nation. This committee shall be selected by the executive council of the

P. S. E. A. All persons contemplating comprehensive research in the field of measuring teaching efficiency, and who are willing that their work compete for this recognition, are urged to communicate with the Research Secretary of the P. S. E. A., 400 North Third Street, Harrisburg, Pa.

TEACHING OF CHEMISTRY IN THE HIGH SCHOOLS

THE New York *Sun* reports that a revision of standards for high schools has been adopted by the committee of chemical education of the American Chemical Society, and will be discussed by school and college teachers from all over the country at forums to be held by the committee at the seventy-fourth meeting of the society in Detroit from September 6 to 10. The revision, according to Professor Neil E. Gordon, chairman of the committee and head of the department of chemistry at the University of Maryland, takes the place of the 1924 "Standard Minimum High-School Course in Chemistry," and is based on 30,000 criticisms.

Professor Gordon states that much high-school science has been shifted to the college under the revised program and duplication has been eliminated. The committee anticipates that the following objectives will govern the high-school teacher in developing the revision:

To show the service of chemistry to the home, to health, to medicine, to agriculture, to industry; in a word to show the service of chemistry to the country.

To develop this service in chemistry around certain minimum fundamental topics and, in doing so, to see that these minimum requirements are so well taught that they may be built upon as a foundation in college.

To train the student in keen observation and exact reasoning and in the scientific attitude of mind.

To develop a careful correlation between recitation and experiment.

To encourage students to keep notebooks which shall be an accurate record of laboratory experience expressed in concise, clear English.

To encourage the placement of chemistry in the third and fourth year of high school after the students have had a year of general science and a year of biological science or physics, or preferably both.

To build upon the earlier science courses and knit them together in the best possible manner.

To encourage students to use reference books in addition to their text-books.

To help pupils to find themselves—to discover whether they have an aptitude for further study in chemistry or applied science, and, if so, to encourage such students to continue their study of science in university or technical school.

Professor Gordon asserts that it was not the purpose of the committee to "standardize" the teaching of chemistry, and that any such result would be a misfortune. The growth of science, he said, will demand further revision from time to time.

THE DEPARTMENT OF REFERENCE, RESEARCH AND STATISTICS OF NEW YORK CITY

THE activities of the bureau of reference, research and statistics of the New York City department of education ranging from studies of the causes of teachers' absence to supervision of experimental schools, are described in detail in the annual report of Director Eugene A. Nifenecker.

Largely through the efforts of this bureau and its experiments and studies, the percentage of retarded pupils during the past five years has been reduced from 46 to 38.2 and the percentage of accelerated pupils has been increased from 12 to 15. This has been accomplished, Mr. Nifenecker reports, in a considerable measure because of the emphasis placed upon the proper classification of pupils.

In fifteen schools the classification of pupils is now based upon developments of the bureau's experimental work.

Under the direction of William J. McGrath, formerly assistant director of the bureau and now a member of the board of examiners, studies of the results of the national intelligence tests were made at stated periods, studies were also made with a limited group of pupils of the development of ability in arithmetic, spelling and reading; studies were made of the effect of silent reading upon the daily drill in flash cards, and of the relative value of the "additive" method and the "equal additions" method in subtraction.

The bureau also gathered the data and issued interpretive reports on age-grade status and the progress of pupils; on pupil promotions;

on the "100 per cent promotion plan" at P. S 114, Manhattan, and neighboring schools, where exhaustive studies included 700 pupils. It conducted and tabulated the results of the citywide uniform tests in composition, spelling and arithmetic.

In addition to this professional work it made a statistical study of teachers' salaries for groups compiling proposals of salary schedules; a study of teachers' absences for the Brooklyn Teachers' Association, and, at the request of the board of examiners, studied the correlations between the ratings of training school students in license No. 1 tests and in subsequent service.

A minimum spelling list was compiled by the research bureau and used in grade tests made by it in the course of its research. As in past years, it also devoted much of its time and staff during the summer months to the preparation of the departmental budget.

Surveys were made of the relief of congestion by the opening of school buildings; of the part-time and special schedule conditions throughout the city; of the size of classes throughout the city and of the use of school accommodations throughout the city.

EDUCATIONAL NOTES AND NEWS

EUGENE A. GILMORE, head of the department of education in the Philippines, has been acting governor-general of the Philippines since the late General Wood left for the United States.

DR. ALEXANDER C. ROBERTS, professor of education, dean of the summer session and director of extension at the University of Washington, has been chosen president of the San Francisco State Teachers' College.

THE election is announced of Dr. Henry G. Williams, superintendent of schools of Marietta, Ohio, as president of Wilmington College, Wilmington, Ohio.

ROY NOTEWARE, superintendent of schools of Wexford County, Michigan, has been appointed Michigan assistant state superintendent of schools.

PRESIDENT COOLIDGE has appointed Claude M. Remy, of Redfield, S. Dak., to be a member of the Federal Board of Vocational Education.

DR. REID LANGE MCCLUNG, of New York University, has been made dean of the college of commerce of the University of Southern California.

CHARLES C. PETERS, since 1920 professor of education at Ohio Wesleyan University, has been appointed professor of education and director of educational research at the Pennsylvania State College. Dr. Peters is a graduate of Lebanon Valley College, Harvard University and the University of Pennsylvania.

MISS MABEL LYTTON, assistant dean of women at Boston University, has been made assistant dean of women at Syracuse University.

VICTOR LEVINE, special assistant to the United States Attorney-General at Washington, D. C., has been appointed professor of law at Syracuse University.

THE school board of Lynn, Mass., has created four new positions and made appointments as follows: R. J. Schmoyer to be director of physical training and health; S. E. Burr to be director of research and guidance; Miss Alice Hughes to be supervisor of elementary grades, and R. W. Babb to be assistant superintendent in charge of business affairs.

DR. KINGSMILL MOORE, for forty-three years principal of the Kildare Place Training College in Ireland, has retired.

DR. D. O. MCGOVNEY, professor of constitutional law at the University of California, has been granted a leave of absence to accept a position at Yale University for the coming year. His place will be taken by Professor A. M. Catheart, of the Stanford Law School.

DR. DAVID P. BARROWS, chairman of the department of political science and former president of the University of California, has been granted a six months' leave of absence to serve as an envoy of the United States government to Latin-America for the purpose of creating more friendly relations between the nations of the Western Hemisphere. The leave of absence will take effect January 1, 1928, and will continue until June 30, 1928. Dr. Barrows's title will be Carnegie visiting professor of international relations to countries of Latin-America.

HAMILTON HOLT, president of Rollins College,

Florida, sailed on August 19 to attend the eighth assembly of the League of Nations at Geneva.

WILBUR DANIEL STEELE, short-story writer and novelist, held a two weeks' conference on short-story writing during the summer session of the State University of Montana. Professor Alexander Dean, formerly of Northwestern University, gave courses in the production of drama.

ON August 22, Jesse Frederick Steiner, professor of social economy in the University of North Carolina, gave a lecture on "The Southern Chain Gang" at the University of Chicago, and on August 23 Earle Edward Eubank, professor of sociology in the University of Cincinnati, gave "The Autobiography of a Criminal."

LOUIS AGASSIZ FUERTES, artist, naturalist and lecturer on ornithology at Cornell University, was killed on August 22, when an automobile which he was driving was struck by a train. Mr. Fuertes spent six months in an exploration of Abyssinia last year for the Field Museum of Natural History, and since his return had been engaged in writing a report of his expedition. He was fifty-three years old.

CLARENCE BENNETT CUTLER, consulting architect for the New York State Department of Education, died on August 16, aged seventy-four years.

THE annual meeting of the Eastern Division of the American Philosophical Association will occur in conjunction with the meetings of the other divisions at Chicago late in December. At that time the second series of Carus lectures will be presented. The institutions to act as hosts are the University of Chicago and Northwestern University.

THE fourth conference of the Association of Special Libraries and Information is to be held this year at Trinity College, Cambridge, from September 23 to 26. Visitors from any country are welcome as members.

THE sixth annual conference of the British Institute of Adult Education will be held at Balliol College, Oxford, from September 23 to 26. It is expected that about 200 representatives of the board of education, universities, local education authorities and voluntary bodies concerned with adult education will attend. The provisional program mentions discussions on "Science in the Modern World," "Science in Adult Education" and "The Relation of Technical to Non-Vocational Adult Education." The vice-chancellor of Oxford University, Professor Turner, Sir Henry Miers, Sir Benjamin Gott, Sir John Sankey, the master of Balliol, Dr. Nunn and others are among those taking part.

THE will of Emily O. Butler, who died on July 25 at her residence in Scarsdale, N. Y., leaves bequests of $500,000 to New York University and $150,000 to the Union Theological Seminary. After numerous other bequests are paid the residue also is to be divided between the two schools.

THE Hotchkiss School, of Lakeville, Conn., is to receive $30,000 from the estate of the late Walter B. Manny, an official of the Burroughs Adding Machine Company.

THE U. S. Bureau of Education states that a new salary schedule has been adopted by the city school system of Cincinnati which divides the teachers of the system into four groups, based on preparation. Those of Group 1, it was said, have had two years of normal school preparation and their minimum salary is $1,400, which may be increased to $2,000 by annual increments of $100. Group 2, according to the bureau, embraces teachers with three years of normal school preparation; they receive $1,500 as a minimum and may advance to $2,500 by annual increments of $125. College graduates comprise Group 3; their minimum salary is $1,600, and they may advance to $3,250 by annual increments of $150. In Group 4 are those who have the equivalent of a year of professional preparation in addition to four years of college credits, and who have served at least a year at the maximum of Group 3; they receive a minimum of $3,400 and a maximum of $3,500.

FEES at the University of Texas and all its branches will be limited to $30 for the long session of 1927–28. This arrangement was provided for by the Texas Legislature after an investigation which showed that some students were required to pay as high as $85 in fees. A number of buildings are being planned, including an addition to the library, a new chemistry building and a new gymnasium. The new power plant will soon be completed. The $300,000

Littlefield dormitory for girl freshmen will also be opened in September. During the past year Garrison Hall, a classroom building, was completed and put into use. A $25,000 open-air theater was constructed. The school has been able to finance these by virtue of funds received from its oil lands. The permanent fund now totals $6,539,896. Royalties for July amounted to $240,000.

LONGDEN HALL, the new $250,000 dormitory for men at De Pauw University, Greencastle, Ind., has been completed and is being furnished for occupancy.

THE right of a university to dismiss a student on the basis that attendance at the institution is "a privilege and not a right" is challenged in a decision made recently by Justice Edward N. Smith in the New York Supreme Court directing reinstatement of Miss Beatrice O. Anthony, a Binghamton student, who was dismissed from Syracuse University last October. Dismissed without an opportunity for a hearing and refused information as to the ground of her expulsion, Miss Anthony carried her fight to the courts last February. The only reason university officials would give was that the Binghamton girl was "not the Syracuse type." She was told, she testified, that "there had been rumors" regarding her conduct. The university regulations, which hold that attendance is a privilege and which reserve the right to request the withdrawal of any student "whose presence is deemed detrimental," were cited by the defense in the case.

PROFESSOR M. V. O'SHEA, of the University of Wisconsin, has recently concluded an inquiry into the use that high school and college students make of the modern languages they study, and is soon to issue a summary of the results. The study was made for the U. S. Bureau of Education and the Modern Foreign Language Committee. Professor O'Shea obtained detailed testimony regarding experience with foreign languages from 20,000 representative graduates of high schools, colleges and universities throughout the country. No person was interviewed who had not studied a modern language for at least two years.

THE University of Iowa has won its contest before the Federal Radio Commission for the right to use its present broadcasting wave-length on full time. The commission denied the application of Station KMA to operate on the 710-kilocycle wave frequency which has been assigned to Station WSUI, which the university operates.

PRESIDENT L. D. COFFMAN, of the University of Minnesota, has set at rest all doubt as to the use that institution will make of football receipts over and above the cost of the general athletic and physical education program by announcing that the surplus will be used to buy land adjacent to the campus and to help finance necessary buildings. He pointed out that funds voted by the 1919 legislature for a comprehensive building program are nearing exhaustion and that in future building programs demands on the state treasury can be reduced to whatever surplus earnings come from athletics. President Coffman gave emphasis, however, to the view that football is and must remain a sport for sport's sake. The fact that it has taken the public fancy to such an extent as to provide earnings of around $200,000 a year is, he said, merely one of the unforeseen circumstances of the game's swift growth in public favor. Money obtained from football games is handled just the way other university money is, he pointed out. Although it does not come from the legislature it is spent under a rigorous system of checks and safeguards, and all outlays are subject to the investigations of the state examiner.

ACCORDING to *American Mercury* fruits of the Bryan influence upon the higher learning in Tennessee are revealed by a questionnaire sent last year to the faculty of the state university, which reads as follows:

The following questions are presented in the most sincere attitude to help in discovering the moral and religious influence of the faculty of the University of Tennessee in order that the moral and religious needs of faculty members as well as students may be better known.

Directions: Answer questions by marking an X in blank space or by filling in with yes or no or some other word or sentence whenever necessary.

Church member?.....Denomination.....
Do you attend church?.....Regularly.....
Occasionally.....

Do you take an active part in church work?
.....Active.....Passive.....

Do you read the Bible daily? Daily..... Occasionally..... Not at all.....

Do you relate the subjects you teach to the moral and spiritual life of your students?..... If not, why?.....

Do you strive for such an atmosphere in the classroom that your students will show an active interest in things religious?.....

DISCUSSION

ACADEMIC FREEDOM IN THE BAPTIST BIBLE UNION UNIVERSITY AT DES MOINES, IOWA

AT last we are to have a real fundamentalist university, "a school," as its manifesto states, "absolutely free from the taint of modernism." There are many other fundamentalist institutions of learning, but this one rejoices in "being in a position to announce to all the world that there is one university in America which will not permit anything to be taught in any of its classrooms which would be destructive of faith in the Bible as the inspired and infallible Word of God, or that could cast a doubt upon the essential Deity and almighty Saviorhood of Jesus Christ."

The institution in question is the Baptist Bible Union University at Des Moines, Iowa. Des Moines University has long been a Baptist school, but has now become the property of the Baptist Bible Union. With the taking over of the institution there is to be inaugurated a change of policy. While "the majority of such Baptist institutions in the northern part of the continent are leavened with 'the leaven of the Sadducees,'" the Baptist Bible Union University is to be purged of all taint of heretical teaching. "The Baptist Bible Union," according to its published statement, "proposes to operate Des Moines University in such a way that there shall be absolutely no question in anybody's mind that it is standing in the classroom as well as at conventions for the great principles of a supernatural gospel." The board of trustees announces "that no one will be retained on the faculty who is not a Christian in the sense of having been born again. No professor will be retained who believes in evolution, or who does not accept the Bible as the infallible Word of God." In other words, the institution proposes to enforce the gentle teachings of Jesus by a liberal employment of the club.

One of the first acts of the new board of trustees was the appointment of a committee to interview the members of the faculty in order to ascertain if they held the proper views on Baptist theology. Hitherto members of the faculty have enjoyed a certain measure of religious freedom and Dr. Grier had been engaged on a two-year contract which stated that he was to have the privilege of teaching the theory of evolution. But now "there will be no teaching of evolution, no teaching of higher criticism of the Bible." Members of the faculty were "questioned intimately in regard to their faith." According to the report in the local paper, "Members of the special faculty committee asked, among other things, if every faculty member believed literally that the whale swallowed Jonah. Similar questions were propounded yesterday when each teacher was required to meet the fundamentalist committee." The President, Dr. T. T. Shields, is quoted as saying that "ultimately we expect to have every instructor in the university a member of the Baptist Church. However, for the present, we will not demand membership, but will demand that they subscribe to our Confession of Faith." This means that all teachers must believe that the Bible is supernaturally inspired, that it "has truth without any admixture of error," that the account of creation in Genesis "is to be accepted literally and not allegorically or figuratively," together with a long list of other dogmas.

When the faculty members were closely quizzed as to their acceptance of the various articles of the Baptist Union Confession of Faith, several failed to come up to the required standard. Dr. Howard Hanson, for several years head of the department of religious education, found himself so out of sympathy with the new régime that he tendered his resignation. He had long been too liberal to satisfy the

Baptist Bible Union, and naturally he could not continue to teach under the restrictions imposed by the board of trustees. Dr. N. M. Grier, professor of biology, although engaged on a two-years' contract, was informed that his services were dispensed with. I have heard of no complaints of Dr. Grier's work as a teacher. Dr. Hanson, Dr. Grier and Dr. Scheidemann, all of whom were "forced to resign," are described by a correspondent speaking with intimate knowledge of the situation as "the strongest members of the faculty." According to the *Gospel Witness*, edited by T. T. Shields, "The faculty committee and the trustee board as a whole admire the absolute frankness of Dr. Grier. The fundamentalists have little difficulty with gentlemen of Dr. Grier's type. They are honest and straightforward, and plainly declare what they believe, and while no true believer could support such teaching as Dr. Grier's, we appreciate his honesty to the full."

Apparently these faculty members were removed simply because they had views inconsistent with the avowed purpose of making Des Moines University a center for the propaganda of Baptist doctrines. If one does not believe in a personal devil, the miraculous creation of species, or the transformation of Lot's wife into a pillar of salt, he has no place in Des Moines Baptist Bible Union University. Other institutions have shown themselves intolerant of opposed views on theology, but apparently the administration of this university believes in going the limit on suppression. How well it may succeed in its attempt to eradicate all taint of heresy in its faculty remains to be seen; at any rate it is going to try.

Obviously Des Moines Baptist Union University is not to be a place for the free and untrammeled search for truth. The methods of science are not to be applied to Biblical study. All teaching must square itself to the narrow confines of a reactionary and dogmatic creed. If a teacher honestly declares that he can not accept these dogmas, he may be respected, but this will not prevent him from being fired.

One may say that an institution is free to behave in this way if it likes. This does not prove, however, that such a course is not essentially immoral. If one holds that any policy which hinders the free pursuit and expression of opinion is detrimental to human welfare, and therefore wrong, he can not fail to condemn the action of the trustees of this institution. How far an institution such as this one is justified in going in the maintenance of the purity of sectarian instruction, I shall not attempt to decide. Probably the trustees and their supporters feel that they are warriors in a righteous cause; but the ethics of their procedure will scarcely bear the Kantian test of universality. If the Methodists, Presbyterians, Catholics, Jews, Agnostics, Theosophists, Christian Scientists, Seventh Day Adventists, Holy Rollers and Holy Jumpers were all to have their sectarian colleges and were to insist that all teachers should be adherents of their faith and teach nothing inconsistent with it, what a pretty educational mess we should have! Obviously not all these creeds can be wholly right. And if their adherents should endeavor to prohibit the expression of divergent opinions and to resist change, they could scarcely adopt any policy more inconsistent with the ultimate attainment and dissemination of truth. Any institution which deliberately sets out to enslave the minds of its servants is false to its primary duty as an institution of learning.

The new policy of Des Moines University is built squarely and honestly on the foundation of religious intolerance. There is no attempt to conceal this fact; on the contrary, it is advertised in published statements as one of the distinctive advantages of the institution. In the sixteenth century such an enterprise was quite *à la mode;* but can it succeed now? The experiment deserves to be watched with interest. An active campaign for funds is being carried on. Teachers have recently been paid their arrears in salaries, and the patronage of the Baptist Bible Union may secure a degree of prosperity not previously enjoyed. But nevertheless I suspect that various troubles are in store. According to the announcement, "The highest educational standards will be maintained." One wonders where the institution is to secure its professors of biology if "no professor will be retained who believes in evolution"; or where a competent geologist can be found who accepts the literal interpretation of

the Old Testament narrative of creation. A Faraday or a Sir William Thompson, although both were adherents of the Christian faith, could hardly meet the requirements for the professorship of physics, because they were not Baptists, and might have been unsound on the subject of redemption or the perseverance of saints. Des Moines Baptist Bible Union University is no place for a Rutherford or an Einstein. Consider the great scholars in any field of learning, and then inquire how many of them would be able to pass muster before the inquisition of the trustees. What a pitiful remnant would be left from which to choose!

Des Moines Baptist Bible Union University makes a bid for financial support on the basis of an ultra-intolerant policy. Perhaps this may appeal to a few ultra-conservative donors. From the financial point of view it is a lead which may be worth working. But even if it brings in a few thousand dollars, the money, we fear, will have been purchased at far too high a price. In the meantime several of the best of its faculty are looking for other positions.

S. J. HOLMES

UNIVERSITY OF CALIFORNIA

A DEFENSE OF THE AMERICAN HIGH SCHOOL

THE article by Miss Frances Smith, of Aurora, Minnesota, in SCHOOL AND SOCIETY for April 16 puzzles me. How could it have been written by one who has actual contact with an American school of to-day? Or, is Miss Smith a classroom teacher who is teaching a subject that is not a popular one in her community and does she, as a result, feel that all education that is cultural is suffering? I am fairly familiar with the school situation on the range, having lived there for many years and having substituted in their schools at various times. I have known many of the teachers rather intimately and am amazed that Miss Smith should bring such charges as she makes against the teaching profession of to-day either for the profession at large or in her own locality.

Whatever change has taken place in the training and preparation of the teaching profession during the last twenty years has been an improvement. I do not believe that any other profession, unless it is medicine, has made such marked strides in its methods and technic. In our system, at least, we have to justify everything we do, everything we teach. In 1907, when I started to teach in one of the good high schools of the state, all I had to recommend me was my B. A. and a fair scholarship record. I was apparently successful, made a good reputation for myself as a high-school teacher and principal. After three years I left teaching, to return ten years later. I found that while I had more knowledge, broader information to offer my classes, I could not compete with the trained teacher of to-day and I had, in order to hold my job, to learn to teach, to learn better methods of getting my information and experience to my class. And ever since I've had to keep up my summer school work and professional reading religiously, for every one who counts in the profession is doing it.

As for her specific charges, I would like to discuss some of them, and ask some questions. Does she really consider that salaries are so adequate that for their sake alone people enter the profession? There are, in our system, of over eighty probably not more than eight earning $2,000 or over, yet we have teachers who in other fields could earn much more. What self-respecting doctor or lawyer would consider himself well paid with a practice of $2,000? Does she really think teachers work less than formerly? I consider my job now to be an eleven-month one—nine months teaching, two professional training and my day lasts from 8 A. M. to at least 5 P. M.; a fairly average day in our system. By the time a teacher has taught five classes, corrected her papers, tested, recorded the results of the tests and evaluated them, attended to her extra-curricular responsibilities, her day surely compares very favorably in length with the day of any other profession.

Is she in earnest when she suggests that teachers "get all they can and give as little as possible"? Surely she is speaking of the exception, not the rule. And as for tardy teachers—we do not have them in our system. As for teachers not being well read—perhaps. But I am impressed with the fact that the majority of teachers I meet are reading better

things than the majority of educated people I meet outside. It may be true that they are not all doing it.

What school system dares hand out credits to its students to-day, in face of the close check-up on student preparation by the colleges and universities? We consider it a disgrace to have our students in the "without credit" English courses in the universities and colleges, and consider the failure of one of our students there a serious matter. As for teachers being recruited from students of this class, ours emphatically are not. They are chosen for their scholarships and ability, I am sure, from the results I see.

Can Miss Smith be in close touch with students who are being trained through the curricula she attacks? Does she know for instance the value of the health training our children are receiving in the grades? I am sure if she were following as I am the training of my own three children in the grades she would feel differently. I am sure she would see the carrying over of this training into the lives of the children. As the result of this training children take pride in good health—cereals and vegetables, fresh air and sleep are a means to an end with them and through the school training far more than through the home. My children are so trained already that when they become even a pound underweight they add more milk to their diet automatically. My little ten-year-old daughter is as keen to have her sprinting and jumping records what they should be as is her older brother, although she is not naturally the type that athletics have appealed to and is consequently especially benefited by the activities. And the idea that exploratory courses in the junior high are without value is surely without basis of fact. I have just had an opportunity to watch my young thirteen-year-old son grow visibly in mental stature during a course of vocational civics. He made a practical contact with different occupations that will be of great value to him in his future developments, and his reactions to these contacts were interesting and intelligent.

Is the quality of scholarship among students of to-day poor? I think not, either in the college or high school. In my contact with undergraduates in summer school classes at our university, and as I meet them in our high schools as teachers, fresh from college, I find them better grounded as a rule than I was at their age. I wonder if Miss Smith has taken the time to visit with the seniors in her school about modern poetry or to discuss, perhaps, the "Idylls of the King" or "Macbeth" with them informally. I'm sure she hasn't if she feels that they have not a real insight into the beauties of literature. As school librarian for the last three years, my admiration for our students' ability to appreciate good things has grown steadily. Surely she is glad to have all the children in school—not just the fortunate few of years ago? In our senior class the student who comes from the home of no culture works side by side as to appreciation and quality of her work with the one whose parents are both college bred. It would be difficult to choose the more cultured of the two.

Would Miss Smith approve having boys come to her classes in overalls? Would she consider her school was preparing him for life if he did? Would he not rather be liable to make vital social mistakes after he left school and so hinder his success materially? Surely any alert boy of to-day knows how to earn a decent suit of clothes to wear to school if his parents can not provide them!

Do the girls smoke in her school? They do not in ours. Have the teachers suggested to them that while it is not any more immoral for them to smoke than it is for the boys to, perhaps still it is not a fastidious or a dainty habit and is liable to make her teeth yellow or her eyes less bright? Nor do our students drink—at least the cases of boys coming to our parties (the only place it ever has happened) under the influence of liquor are so few that they are negligible, and compared with the pre-Volstead day are very few indeed.

Our scholarship standards in our high school are higher than when I graduated twenty-two years ago. Preparation is more thorough and more adequate to the need of preparing them for life. Surely the school system—and I believe there are few up-to-date systems left that do not—should control the extra-curricular "mad rush," as Miss Smith calls it. Most schools have adopted the point system whereby student extra-curricular activity is controlled.

I, for one, have no patience with the idea that the ideals and standards of modern youth are lower or non-existent! True, you have to be in their confidence to know what their standards are and to be openminded as to one's own standards in order to know whether they were absolute perfection. The girls I come in contact with—and they are both from high school and young teachers just out of college—have ideals that they strive to live by. They are not the ideals imposed upon them, either, by a not altogether clear-thinking older generation, but are the result of their own thinking. As an older woman I often think that life will change and modify these ideals somewhat—but surely that is the experience of our own generation, too. I admire their frankness, their honesty, their ambition, their fearlessness and their spirituality. Yes! Things of the spirit do count with them. My students, and I am sure they are just the average American high school students—are distinctly interested and concerned with things of the spirit. Whatever their church, the majority of them are active in its organizations. I am often made rather humble by their expressions of faith. Not long ago we had a rather surprisingly successful debate team. I say surprising because the three girls who composed it were of the quiet, studious type with very little of the fire and oratory usually characteristic of debaters. Time after time they won and each time the critic judge mentioned their outstanding sincerity. The three girls were visiting with me one day after school and told me that their success had surprised them, and that they had tried to analyze it themselves. They decided that it was the result of their trying so hard to be good Christians and that that had developed in them the ability to meet the situation. The other day I was advising another group of girls in making a ritual for a club they were forming. Their knowledge of the Bible and the number of times they used passages from it to adequately express their ideals was illuminating to me.

This continual harping on the ideals and conduct of our young people irritates me. Just because this generation lives in a new world, surrounded by new conditions of living, and have had to adapt themselves to it with little intelligent guidance from our generation, is little excuse for our intolerance. Much that we consider superficial and flighty in them is a protective covering, put on directly because of our lack of understanding and our smug attitude toward them. It is quite time that we as teachers become aware of the fact that permanent damage is being done to our students by this attitude and that we at least can be understanding and prove our faith in them.

ETHELYN CONWAY HARRISON
TECHNICAL HIGH SCHOOL,
ST. CLOUD, MINNESOTA

QUOTATIONS

SCHOOL HOURS AND HEALTH

WHEN Health Commissioner Harris declared that the present five-hour school day is too long, especially for the younger children, he found more educators in agreement with his opinion than he may have expected. Additional support for his position now comes from Dr. James Frederick Rogers, chief of the division of physical education of the United States Bureau of Education. In a report prepared for the bureau's biennial survey of education Dr. Rogers advocates a three-hour day for pupils in the lower grades. He points out that "children, like other animals, thrive best with open air, sunlight and activity, conditions which ordinary school life does not yet afford." For this reason he agrees with Dr. Harris that part-time may be a blessing in disguise.

Dr. Rogers is not content, however, to rest his case on the arguments he advances as a physician. He sets out to prove that a shorter school day may actually improve a child's scholastic standing. He quotes L. M. Terman, who in "Genetic Studies of Genius" asserted that "within a given age group the intelligence and achievement scores earned are totally uncorrelated with the length of school attendance." Of more interest to the parents of children outside the genius class is Dr. Rogers's reference to the experience of Dr. F. H. Richardson, consultant in children's diseases of the New York State Department of Health. For many of Dr. Richardson's patients curtailment of hours of study resulted not only in improved physical condition but in better school work.

Few will disagree with Dr. Rogers's observation that "it is just as fallacious to affirm that the more we school a child the better educated he is as it is to believe that the more we exercise his muscles the stronger he will become." Beyond a certain limit it is useless to require a child to attend school; but is a five-hour day in a modern school, with its gymnasium, swimming pool, shopwork, auditorium exercises and occasional excursions to museums and parks, too long for a normal child? And in certain sections of the city how much sunlight and fresh air is available for the child after school?

Dr. Rogers himself recognizes these objections, for after building up a fairly good case for a curtailed school day he observes:

> There is another side to the subject, however, and the average child is perhaps at present better off than if his school hours were shorter, for if he faces the Scylla of pedagogic demands, on the one hand, there is, on the other, the Charybdis of indifference to his needs out of school hours. The solution of the latter problem lies in the program of highly varied activities and in wisely (though not too much) supervised play.

In New York the program of education may not be ideal, but at least the school authorities are not indifferent. After-school athletic centers the year round and summer playgrounds in vacation time, as well as supervised play within school hours, show that they recognize their responsibility for the child's physical as well as his mental development.—*New York Sun.*

PLAY FIELDS

No statistics which have emanated from the police department are more important than those just issued by the traffic division covering the killing and maiming of children in the city streets. The figures are appalling. Here they are for the last four and a half years:

	Killed	Maimed
1923	457	23,966
1924	435	26,143
1925	425	12,414
1926	413	13,272
1927 (first six months)	208	5,600

This destruction of children—nearly two thousand killed and more than eighty thousand injured—is a disgrace to a civilized community. It becomes doubly so when we realize that the victims are very young children engaged in harmless play. That there is a way to reduce this slaughter of the innocents has been pointed out many times, but the city authorities choose to move slowly, and when it is mentioned begin to talk about the necessity for economy.

The remedy for this distressing condition lies in providing protected playgrounds. That this would effectively reduce the accidents is borne out by a second table compiled by the traffic police. It shows that during the month of June this year, while the children were attending classes and had no segregated places in which to play, there were forty-three deaths, while during July, when the schools were closed and the children had more time to play, the number of deaths fell to twenty-eight, the decrease resulting from the opening of the playgrounds when the schools closed.

The need of these playgrounds is too apparent to admit of dispute. Vehicular traffic increases astonishingly each year and the danger to child life increases with it. No civic reform is more important than protecting these young lives.—*New York Evening Post.*

RESOLUTIONS OF THE WORLD FEDERATION OF EDUCATION ASSOCIATIONS[1]

1. THE World Federation of Education Associations reaffirms its allegiance to the ideals and program of service developed at the world conference in San Francisco, in 1923, and at the first biennial conference of the W. F. E. A., at Edinburgh, in 1925.

It believes that upon the teachers of the world rests the responsibility of preparing the children and youth of all nations and races, for lives of mutual good-will, service and happiness.

It believes that every child is entitled to an education which will prepare it for sound health, worthy home membership, mastery of the tools, technics and spirit of learning, faithful citizenship, vocational effectiveness, the wise use of leisure, and which will promote the development of sound character.

[1] Adopted at the second biennial conference, at Toronto, on August 12, 1927.

Educational Opportunity. The W. F. E. A. recommends that in every country, educational opportunities be open to all, regardless of race, creed, or color.

Secondary Education. 1. That the W. F. E. A. encourage cooperation with affiliated associations in the promotion of such aids to education as universal biography, visual instruction and the use of motion films, particularly when of educational and scientific nature, literature and language study, particularly in the modern field, esthetics and training for citizenship as possessing great potentialities for the development of the international outlook. 2. That the W. F. E. A. encourage secondary schools to secure, during the next biennial period, the inclusion in the daily time-table or schedule, provision for assemblies, athletics, musical and dramatic work, and other forms of extra-curriculum activities, with a view to improving the general morale of all pupils.

Colleges and Universities. The W. F. E. A. recommends that the committees of the group on colleges and universities continue their work during the next biennial period, and that they make a full report to the group in 1929.

Adult Education. The W. F. E. A. recommends that its constituent associations in all countries cooperate with all bona fide associations, or other agencies, in the work of the provision and development of facilities for adult education.

History Teaching. The W. F. E. A. recommends that the W. F. E. A. prepare a statement of the ideals which should obtain in history and history teaching. Such statement should emphasize the necessity for an impartial treatment of international intercourse. A frank admission of shortcomings should accompany the claim of services rendered to the cause of human welfare in each country. In proceeding from national to world history, emphasis should be laid upon the progress from conflict to conciliation.

Geography Teaching. The W. F. E. A. recommends: 1. That in the interests of the fuller development of the spirit of world mindedness, it is desirable that means be devised whereby up-to-date geographic information can be secured and distributed to the teachers in the various types of educational institutions in all countries. 2. That a committee be appointed to investigate the present situation in regard to the teaching of geography.

Home and School Relationships. The W. F. E. A. recommends, since the child receives its education in home, school and community, the promotion of cooperation between home and school, and their joint efforts to secure in the community such conditions as will supplement the best instruction given by the parents and teachers, for the development of the whole child in all three of these relationships.

Education Week. The W. F. E. A. recommends that Education Week be observed throughout the nations of the world for the purpose of acquainting the public with the work of the schools and their needs, and that the federation offices serve as a clearing house for plans, policies and information covering this project.

Health. The W. F. E. A. recommends: 1. That in all countries a School Health Service be established by the appropriate authorities. 2. That entrance to teacher training institutions be preceded by a health examination, and that such institutions provide thorough training in the fundamental principles of hygiene and physiology, and that all doctors and nurses appointed to school health services be especially trained and qualified in the psychology of education, in school administration and classroom procedure. 3. That machinery be established by this federation for the interchange of information regarding these activities throughout the world.

Character Education. The W. F. E. A. recommends that a committee be appointed to ascertain the current practice in different countries, in the preparation of teachers, for the giving of character training, and that this committee report to the section at the next biennial meeting.

Preparation of Teachers for International Cooperation and Good-will. The W. F. E. A. recommends that this section continue and extends its studies during the next biennial period.

The Behavior-Problem Child. The W. F. E. A. recommends: 1. That special provision be made for the behavior-problem child, including

a curriculum adapted to his needs, and the provision of understanding teachers. 2. That the problem-child be regarded not as a moral delinquent, or a mental defective, but rather as a special type, needing to be helped through a difficult period of development. 3. That a committee be appointed to investigate and report on what is being done in teacher training classes to prepare teachers for this responsibility.

International Educational Exchange. The W. F. E. A. recommends: 1. That the plans now in operation for the exchange of students, professors and lecturers between the higher institutions of learning in various countries be highly commended, and that we heartily recommend that educational authorities throughout the world offer as far as possible all reasonable inducements in the way of scholarships and other means to promote and extend exchange of this kind. It especially recommends the use of such means as invitations from educational institutions and industrial concerns of any country to the students and professors of other countries for the promotion of scientific research work. 2. That we believe the interchange of teachers to be a most effective means of promoting better understanding and goodwill among the peoples of the world, and also to be of inestimable educational advantage. In this connection we recommend for careful consideration as a general basis for interchange the scheme for interchange of teachers endorsed by the Imperial Educational Council at London, England, in 1923, and now in operation within the British Empire.

Library Service. The W. F. E. A. recommends that a committee be appointed to formulate a program of work to be presented at the next biennial conference, covering the international aspect of library service, including bibliographies and educational literature of various countries, and the interchange of educational periodicals and news.

The Removal of Illiteracy. The W. F. E. A. recommends: 1. That all nations strive to bring the tools of learning to their illiterates. 2. That the illiteracy commission of the W. F. E. A. gather information, literature and plans in use in various countries, and make them available in handbook form. 3. That a uniform definition of the term "adult illiterate" be adopted, and that this include persons of ten years of age or over. 4. That this definition be applied in the census to be taken in or about 1930.

Visual Education. The W. F. E. A. recommends: 1. The creation of a visual aid card index catalogue, an international bibliography on the visual aid field, an international circulation plan for the catalogue and bibliography so created. 2. The cooperation with all other sections of this federation, in order to secure to each the maximum benefit of visual aids in accomplishing their aims.

Appreciation of Hospitality. The W. F. E. A. expresses its sincere appreciation and thanks to the local committee, the Canadian Teachers Federation, the provincial government of Ontario, the University of Toronto, officers of Hart House, the board of education, the City of Toronto, the Niagara Falls Commission, the railways, the press, the police, the Canadian National Exhibition, to Mr. Augustus Bridle and his associates, to Dr. H. A. Fricker; the Canadian Bureau for the Advancement of Music, the T. Eaton Company and the Robert Simpson Company, for generous services and hospitality provided in connection with the conference.

The cordial cooperation of all these agencies and of the citizens of Toronto has contributed in the highest possible degree to the success of this second biennial conference.

The secretary of the federation is instructed to convey an expression of the gratitude of the W. F. E. A. to all who contributed in this way.

The Resolutions Committee: Chairman, Mr. F. Mander, B.Sc., England; secretary, Mr. Joy Elmer Morgan, editor, *Journal of the N. E. A.*, U. S. A.; committee, Mr. M. J. Coldwell, Canada, Mr. Sidney Wei, China, Mr. G. R. Parker, B.A., B.Sc., England, Sir Charles Cleland, Scotland.

SOCIETIES AND MEETINGS

A COOPERATIVE EXPERIMENT IN PERSONNEL PROCEDURE

THE American Council on Education has organized a cooperative experiment in personnel

methods under direction of a committee of which Dean H. E. Hawkes is chairman and David A. Robertson, assistant director of the American Council on Education, is secretary. The project has been made possible by a grant from Mr. John D. Rockefeller to the amount of $20,000 a year for three years.

This program is the fruition of several efforts to bring about a prompter and more accurate analysis of the abilities of an individual so that those abilities might be more effectively developed in the schools and colleges and used in the world. The Division of Anthropology, National Research Council, called a conference on vocational guidance in college held January 1, 1925, in Washington, D. C. This was attended by representatives of fourteen universities and colleges, who were constituted an advisory council with power to increase its membership. This council elected Dean H. E. Hawkes chairman of the advisory council and of its executive committee of five which the chairman was authorized to appoint. The executive committee —Messrs. Herbert E. Hawkes, of Columbia University; H. W. Holmes, of Harvard University; C. Riborg Mann, director of the American Council on Education; Walter Dill Scott, president of Northwestern University, and Harry R. Wellman, of Dartmouth College—prepared many memoranda and endeavored to secure financial support. A grant from Mr. John D. Rockefeller's Benevolent Fund made possible a study of personal procedure in fourteen institutions by Mr. L. B. Hopkins, now president of Wabash College. This report, "Personnel Procedure in Education," was published as a supplement to the *Educational Record*, October, 1926. The executive committee then presented to Mr. Rockefeller a plan (1) to inform the colleges and universities concerning the best personnel methods; (2) to prepare a personal record card which should afford personal information to teachers and administrators at the college level; (3) to prepare achievement tests and make available all the facts concerning them in an effort to stimulate such testing; (4) to develop objective and useful measurements of character; (5) to prepare vocational monographs. It was to aid in carrying out this plan that Mr. Rockefeller made the three-year grant referred to above. The executive committee then invited the cooperation of scholars in the work of four committees to determine policies at a conference of members of all committees held July 1 and 2, 1927, at West Point.

The committees were made up as follows: Committee on Personnel Methods: H. E. Hawkes, chairman; H. W. Holmes, L. B. Hopkins, C. R. Mann, W. D. Scott, Arthur H. Ruggles, David A. Robertson, secretary. Committee on Personal Record Cards: L. B. Hopkins (Wabash), chairman; Mary H. S. Hayes (New York), J. H. Willits (Pennsylvania), J. J. Coss (Columbia), D. T. Howard (Northwestern). Committee on Achievement Tests: H. E. Hawkes (Columbia), chairman; Agnes B. Leahy (Connecticut College for Women), V. A. C. Henmon (Yale), M. R. Trabue (North Carolina), Ben D. Wood (Columbia). Committee on Personality Measurement: D. A. Robertson (American Council on Education), chairman; Grace E. Manson (Michigan), F. F. Bradshaw (North Carolina), Donald G. Patterson (Minnesota), E. K. Strong, Jr. (Stanford). Committee on Vocational Monographs: C. R. Mann (American Council on Education), chairman; Emma P. Hirth (New York), W. W. Charters (Chicago), A. B. Crawford (Yale), C. S. Yoakum (Michigan).

At West Point July 1 and 2 all the members of the committees were present except three who were represented by proxy. The conference from the outset engaged the enthusiasm and keen thought of all present and resulted in decisions of importance to all colleges and universities.

The discovery of the best tools at present available and the experimental use of those by the colleges with a comparison of results make necessary a central office for quick evaluation of material ready for use. This headquarters will be the office of the secretary of the committee, 26 Jackson Place, Washington, D. C.

The cooperation of all reputable organizations and institutions interested in personnel procedure is desired. All interested groups will be invited to a conference next winter.

The committee on personal record cards undertook to prepare two separate forms: (1)

a complete educational personal record; (2) and a college personal record. It is the intention to include in the first those items covering a student's school life from the seventh grade through college. It will include academic records, extra-curriculum and personal data. It will be a check list of items useful in educational administration at all levels and important in research. The terms will be defined; the use of each item will be described; a summary of the experimental evidence of the value of each will be given. In the second list will appear those items of records of immediate utility in the case of the individual college student. This list will be the basis of the key personnel card of the college. When a model record form has been derived from the experience of the colleges it will be printed and sold by the American Council on Education.

Objective achievement tests already exist in modern foreign languages, high-school mathematics, American history, English, first and second year Latin, physics and chemistry. The committee will prepare as rapidly as possible tests in economics, government, ancient history, European history, solid geometry and trigonometry, biology. Of course a continued use of such tests will depend upon the preparation of additional ones from time to time. It is the intention to stimulate the intelligent use of placement and objective achievement tests in colleges. An annotated list of available tests will be prepared and distributed. A report on the use of such tests in colleges will be issued.

Personality measurement as yet has depended largely on rating scales. The committee believes that if rating scales are to be used at all they should be used only for traits for which no valid objective measurements are now available and that those who rate individuals should rate only those traits they themselves have had the opportunity to observe and that if they must rate large numbers of students the number of items should not exceed five. They believe also that traits should be mutually exclusive and no single trait should include unrelated modes of behavior. Studies of existing rating scales and their value are in progress and will afford the basis for an experimental rating scale to be prepared by the committee at a meeting in Columbus, Ohio, during the Christmas holidays. The committee will also prepare instructions for the guidance of raters and the makers of "word pictures" of students, recognizing the importance of training raters if valid ratings are to be obtained. The vocational interest test by E. K. Strong, Jr., seemed to the committee so likely to be valuable that it recommended to the executive committee an appropriation to assist in developing scales and a scoring manual.

Vocational monographs of genuine value to students are greatly needed. The results which a model form should achieve, the types of information it should contain, sources of information and methods of presentation will be the subject of immediate study, so that a working model outline of form and content can be completed by November, 1927. It is hoped that by March, 1928, four or five individuals or individual firms will prepare monographs in fields in which reliable occupational data are available and that these monographs may be distributed among the colleges in time to serve students graduating in June, 1928. Reports on the student reactions to these will make it possible to improve the outlines and forms and to issue better monographs for experimental use in 1929.

If the spirit of the West Point conference is carried into the future work of these committees, and there is every reason to believe that the energy, seriousness, open-mindedness and caution there displayed will continue to characterize them, they will contribute largely to the solution of some of the pressing problems of the overcrowded colleges eager to do their best for the individual student.

DAVID A. ROBERTSON
AMERICAN COUNCIL ON EDUCATION

EDUCATIONAL RESEARCH AND STATISTICS

GIVING PUBLICITY TO CITY SCHOOL SURVEYS[1]

THAT the school survey is indispensable in planning a sound program for school improvement can not be gainsaid. Neither can it be

[1] This study was made under the advice and criticism of Dean B. F. Pittenger, of the school of education of the University of Texas.

successfully controverted that, in order to reap the full fruits of surveys, their findings must be made known to the public. The people will not give, and should not be expected to give, their consent to changes in education until they are convinced that such changes are necessary; and they can only be convinced through proper efforts on the part of school officials to make school conditions and needs known to them. This paper seeks to set forth some of the methods now used to inform the public about the findings of city school surveys.

The data on this problem were secured by means of an inquiry form, which was sent to cities that had made surveys of their school systems. This inquiry form, in nearly every case, was sent to the city superintendent of schools, he being regarded as the one best qualified to give the information desired. However, it was considered probable that some of the superintendents were not in their present locations at the time the surveys were made. In those instances, they were requested to ask some one else, who could give the information, to check the inquiry form. This was done in a few cases. In fact, some of the superintendents even forwarded the inquiry form to their predecessors who had been in closer touch with the surveys and could, therefore, give more detailed information. Replies were received from forty-eight cities.[2]

The first item to which the reader's attention is called is the organization used by the cities in getting the findings of the surveys before the people. Table I gives the types of publicity organization used and the number of cities reporting each type.

TABLE I

SHOWING THE ORGANIZATION OF SCHOOL SURVEY PUBLICITY IN CITIES

Types of organization	Number of cities reporting
Executive committee	10
Publicity committee	8
Publicity expert	3
Group leaders	6
Survey staff	4
Various professional groups	1
Board of education	7
Chamber of commerce	5
Superintendent of schools	6
Teachers	2
Rotary club	1
Kiwanis club	1
Women's clubs	1
League of women voters	1
Parent-teacher association	1
No publicity organization	17

The table lists fifteen types or phases of organization. The number of times each type was reported ranges from one for the various professional groups, the Rotary club, the Kiwanis club, women's clubs, the league of women voters, and the parent-teacher associations to ten for an executive committee. It is probable that there is some overlapping among these various types of organization. For instance, the board of education might in many cases be identical with the executive committee.

The table shows that only eight of the forty-eight cities reported the use of a publicity committee, and that only three employed a publicity expert. It is also seen that seventeen of the cities reported no publicity organization of any kind. In other words, in more than one third of the cities no one was made responsible for bringing the findings of the surveys to the attention of the people. All of these statements indicate that city survey publicity is as yet very deficient in organization.

However, while there were seventeen cities

[2] The cities replying to the inquiry form are the following: Akron, Ohio; Alton, Ill.; Alexandria, Va.; Antigo, Wis.; Ashland, Ore.; Atlanta, Ga.; Boston, Mass.; Butte, Mont.; Boise, Idaho; Cleveland, Ohio; Cleveland Heights, Ohio; Caldwell, N. J.; Cranford, N. J.; Denver, Colo.; Dodge City, Kans.; Elizabeth City, N. C.; El Paso, Texas; Fort Lupton, Colo.; Grafton, West Va.; Gloucester, Mass.; Grand Junction, Colo.; Grand Rapids, Mich.; Hackensack, N. J.; Honesdale, Pa.; Idaho Springs, Colo.; Indianapolis, Ind.; Lawrence, Kans.; Leavenworth, Kans,; Lexington, Ky.; Meriden, Conn.; Marietta, Ohio; Marion, Ill.; New Bedford, Mass.; Newark, N. J.; New York, N. Y.; Paducah, Ky.; Providence, R. I.; Paterson, N. J.; Richmond, Va.; Salt Lake City, Utah; San Antonio, Texas; Sparta, Wis.; Scranton, Pa.; San Francisco, Calif.; Stamford, Conn.; Winchester, Mass.; Winchester, Va.; Winston-Salem, N. C.

which did not report any sort of organization for publicity purposes, yet there were only three which reported that no attempt was made to inform the people regarding the findings of their surveys.

What media of publicity were used by the cities? This is the next question to which the reader's attention is called. Information on this point is contained in Table II, which gives

TABLE II

SHOWING THE MEDIA OF PUBLICITY USED BEFORE, DURING AND AFTER THE SURVEYS, AND THE NUMBER OF CITIES REPORTING EACH MEDIUM AT EACH PERIOD

Media of publicity	Before	During	After	Total
Newspapers	27	30	36	93
Meetings and speakers	13	14	18	45
Circular letters or cards	6	4	5	15
Personal letters or cards	3	1	3	7
Survey reports	0	0	37	37
Personal interviews	6	6	9	21
Questionnaires	0	1	0	1
Bulletins and pamphlets	2	3	12	17
Visits to schools by patrons	3	3	10	16
School exhibits	1	1	5	7
Moving picture slides and reels	1	2	4	7
Posters	4	2	4	10
Parades	0	0	2	2
School entertainments	1	1	3	5
Endorsements	1	1	6	8
Handbills	1	1	1	3
High-school paper	0	0	1	1
Petitions	0	0	1	1
Totals	69	70	157	296

the various media reported, together with the number of cities reporting each at each of the three periods of publicity; namely, before the survey, during the field work of the survey, and after the survey.

This table shows that eighteen different media were used by the cities in giving publicity to their school surveys. It is seen that every medium was reported at each of the three periods except five. The use of the published reports of the surveys (which, of course, were not available until after the completion of the field work in each case) was reported only after the surveys. Questionnaires were reported only once; namely, during the field work of the survey. The use of parades was reported twice, and that after the surveys. High-school papers and petitions were each reported once as having been used after the surveys. With the exception of survey reports, then, the media not used at each of the publicity periods were reported only once or twice by all the cities.

The total at the foot of the table show that, with reference to the number of media used, the three periods of publicity stand in the following ascending order of importance: before the survey, during the field work of the survey, and after the survey. In other words, the figures suggest that publicity was stressed more and more at each succeeding period. This impression is confirmed by the actual statements of the reporters as to the matter of emphasis in publicity. Only one city reported that the greatest emphasis was placed on publicity before the survey; four gave the period during the field work of the survey, while thirty-one placed the greatest stress on publicity after the completion of the survey. This practice in regard to the distribution of emphasis is no doubt as it should be; more and more facts become available as a survey progresses, and this calls for more and more publicity to make them known to the public.

The right-hand column of Table II gives the total number of times each medium was reported at the three periods. If the number of times a medium was used is any indication as to its effectiveness, then it must be concluded that the newspaper is the most effective instrument in city survey publicity. Evaluated on this basis, other important media are meetings and speakers, survey reports, personal interviews, bulletins and pamphlets, visits to the schools, and letters or cards.

Another point is to note the groups of people which offered the strongest support or the strongest opposition to the efforts made to secure the school improvement outlined by city surveys. This information is set forth in Table III. There is probably much overlapping among the groups as reported and as listed in the table.

TABLE III

SHOWING THE GROUPS THAT OFFERED THE STRONGEST SUPPORT AND THE GROUPS THAT OFFERED THE STRONGEST OPPOSITION TO THE IMPROVEMENTS OUTLINED BY CITY SURVEYS, TOGETHER WITH THE NUMBER OF CITIES REPORTING EACH GROUP

Groups	Strongest support	Strongest opposition
Women's clubs	20	0
Business men	13	2
General public	9	1
Teachers	3	1
Supervisors	2	0
Board of education	2	3
Families with children in school	15	2
Families with no children in school	2	4
Heavy taxpayers	5	11
Light taxpayers	4	4
Women in general	6	0
Professional people (other than teachers)	12	2
Pupils	8	0
Illiterates	0	2
Commercial clubs	15	1
Religious organizations	5	0
Labor unions	4	2
Politicians	0	2
Board of Finance	0	1
Retired citizens	0	9
Unskilled labor	1	3
Farmers	0	1
Lodges	2	0
Skilled labor	3	0
Parent-teacher associations	1	0
Civic clubs	2	0
Totals	134	51

Among the groups giving the strongest support, women's clubs, families with children in school, commercial clubs, business men, and professional people (other than teachers) clearly stand out, for they were reported much more often than any others. Among the groups offering strong opposition to school improvement, heavy taxpayers and retired citizens lead. The groups that were never reported as sources of opposition are women's clubs, supervisors, women in general, pupils, religious organizations, lodges, skilled labor, parent-teacher associations and civic clubs. Likewise, the illiterate element, politicians, the "Board of Finance," retired citizens, and farmers were reported only as having offered strong opposition to the improvements sought by school surveys. However, with the exception of retired citizens, none of these opposing groups was reported very often, two of them, in fact, being mentioned only once. The groups which were found on one side almost as often as on the other are families with no children in school, light taxpayers, and labor unions. The general public and teachers, which were reported nine and three times, respectively, as sources of strong support, were mentioned only once as strong opposers. The particular case in which the teachers offered opposition is explained by the fact that the surveyors were not tactful in dealing with a distrustful group of teachers, and thus aroused resentment among the teaching force.

Although there is much opposition to city school surveys and to the improvement outlined by such surveys, yet such opposition is perhaps not as great as it at first appears to be. The totals at the foot of Table III, for instance, show that to balance the opposing group there were several supporting groups. What is of vital importance is for those in charge of survey publicity to enlist the active help of the groups usually in favor of school improvement, and to reach the opposing groups so as to win their approval also.

The foregoing discussion has shown that present-day city survey publicity, in general, is deficient in organization. The data have also shown that the cities are not making the most complete use of the available media of publicity. The discussion has, furthermore, suggested that those in charge of city school surveys have not always been careful to secure the support of certain groups of people who are more or less consistently opposed to school improvement. The full benefits of school surveys will never be reaped until more thought and attention are given to the matter of informing the public about the findings of such surveys. School improvement, in other words, is not only based upon public opinion, but is also limited by it.

R. E. GARLIN

UNIVERSITY OF TEXAS